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**Mots clés :** Paralysie obstétricale ; Plexus brachial ; Rééducation pédiatrique

**Objectif.**– Notre travail a pour but d'évaluer les modalités de prise en charge des paralysies obstétricales du plexus brachial en unité pédiatrique de MPR.

**Matériel et méthodes.**– Étude rétrospective portant sur une population de 22 patients suivis en unité pédiatrique de rééducation fonctionnelle durant la période mai 2010 à avril 2011. L'évaluation des déficiences de l'épaule a été fondée sur la cotation des muscles deltoïde, biceps et les rotateurs externes de l'épaule ainsi que sur l'étude des mobilités passives. L'évaluation fonctionnelle a été faite selon la classification de Mallet.

**Résultats.**– L'analyse montre une récupération complète du deltoïde et du biceps dans 22,7 % des cas à 12 mois d'évolution. Sur le plan fonctionnel et avec un recul moyen de 2,6 ans, 57,1 % des enfants ont récupéré un stade supérieur ou égal à III de Mallet. Trois enfants ont été opérés (réimplantation nerveuse), cette chirurgie a permis une amélioration de l'état fonctionnel dans tous les cas.

**Discussion et conclusion.**– Les récupérations musculaires spontanées restent faibles après un an, mais le pourcentage de récupération fonctionnelle augmente avec le temps et aussi après réimplantation nerveuse chirurgicale.

*Pour en savoir plus*

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P060–FR

### **Évaluation de l'indépendance fonctionnelle par la WeeFIM chez les enfants atteints de paralysie cérébrale après une rééducation post-chirurgicale**

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Pas de résumé français communiqué.

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### *Version anglaise*

P054–EN

### **Spina bifida-related orthopedic disorders**

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**Keywords:** Orthopedic disorders; Neurological spina

**Introduction.**– We wish to draw attention to the diversity of living and involving neuro-orthopedic profile in 32 spina bifida patients. The major treatment burden must be adapted to functional and vital prognosis. Management is multidisciplinary.

**Objective.**– To describe the clinical manifestations and disorders caused by neuro-orthopedic features, and emphasized the therapeutic value.

**Material and method.**– The study is being undertaken through a consultation with physical medicine and equipment from 2008 to 2010 including 32 cases of spina bifida. All patients could be evaluated clinically. The variables studied: age, sex, neurological level, clinical profile, and orthopedic disorders.

**Results.**– The patients were divided according to: ages ranged from 02 to 23 years, 2 years ( $n=1$ ) 5 years ( $n=3$ ) 7–10 years ( $n=15$ ) 13–23 years ( $n=13$ ) and sex ratio: female 24/male 8.

Groups were defined based on the neuromotor level: G1: L1-L2 (9) G2: L3-L4 (9) G3: L5-S1 (14).

The orthopedic and surgical measures were made for spine, hips, knees and feet.

**Discussion.**– The neuro-orthopedic manifestations are based on the achievement paralysis (paraplegia, para paresis asymmetric trophic ulcers (pressure ulcers), bladder and sphincter disorders by failing to protect renal function. All the patients underwent surgical treatment, which provided a functional improvement, relief of sitting and walking easier. The provision of orthopedic devices has standing and walking.

**Conclusion.**– The orthopedic management of spina bifida children must be adapted to the needs of each patient to monitor and prevent these disorders causing disability. Rehabilitation, orthopedic surgery and equipment account for most of this support.

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P055–EN

### **Intensive reeducation of the upper limb program (PRIMS) for children with hemiplegic cerebral palsy**

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**Keywords:** Cerebral palsy; Upper limb; Constraint induced therapy; Bimanual training

**Aims.**– Our aim is to evaluate the intensive rehabilitation of the upper limb program for children with hemiplegic cerebral palsy at the Children's Hospital of Saint-Denis, Reunion Island. This rehabilitation program was set up to improve the use of the affected upper limb by reducing the learned non-use and improving functional capacities by specific intensive exercises.

**Patients.**– Hemiplegic children aged from 6 to 18 years old.

**Material and method.**– The PRIMS include firstly 4 weeks of constraint induced therapy, and then 2 weeks of bimanual exercise (HABIT). Standardized evaluations (analytical, functional and ecological) are performed when the program starts and when it ends. Personalized functional objectives are defined with the child at the beginning of the program.

The PRIMS make a point of being compatible with the everyday life of a schooled child, to improve their tolerance, their compliance and thus their efficiency.

The program integrates validated rehabilitation techniques, which are adapted to the child. A home exercises program is also scheduled during both phases as guidance is assured by the occupational therapist once a week.

In order to improve the involvement of the child, a maximum of choices are made by him or her in the interactive definition of the program's content (exercises, personalized projects, rest time).

The PRIMS can be suggested after a treatment of the upper limb by botulinum toxin.

**Conclusion.**– Analyses of the efficiency and of the tolerance of the program are still in progress. A comparison of the standardized evaluations before and after the PRIMS is being achieved as well as a questionnaire estimating the compliance; how hard it was to complete the program and the motivation of the child and his/her family.

The preliminary results are in favor of an analytical, functional and ecological improvement of the treated upper limb.

*Further readings*

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P056–EN

### A new ortesis for multilevel surgery on lower limbs in cerebral palsy children

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**Keywords:** Cerebral palsy; Surgery; Apparatus

**Objective.**– Immobilization after surgery of lower limbs is difficult and long to install on the operating table, inducing complications and delays in starting physiotherapy. We built posture apparatus, which can be made before the operation, fitted to the orthopaedic corrections after surgery and removable and adjustable for the needs of physiotherapy.

**Method.**– We improved this orthesis during the follow-up of 31 cerebral palsy patients after multilevel surgery on the lower limbs.

**Results.**– The apparatus includes two valves, one crural, one sural connected by a flexible metallic blade according to the residual permanent flexion of the knee and allowing a regulation in length; inside, there is a removable plastazote, it can be cut and enlarged for dressings. A droplet flexible valve with elastic is used to protect the heel. A control system of the abduction completes the apparatus.

**Discussion.**– Benefits are evident: time of anesthesia is reduced, surgical cost is reduced, nursing is quite easier, and physiotherapy is earlier. During this study, we had only few complications and because of this ortesis we avoided great complications.

**Conclusion.**– This ortesis seems to be useful in the treatment of cerebral palsy patients with multilevel surgery on the lower limbs.

**Further readings**

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P057–EN

### Premature epiphyseal closure in an adolescent treated by retinoids for acne: An unusual cause of anterior knee pain

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**Keywords:** Retinoids; Knee; Premature epiphyseal closure

**Introduction.**– Retinoids are effective and widely used for the treatment of severe acne. Their use can be, however, associated with numerous side effects. For example, some rare cases of premature epiphyseal closure were reported.

**Observation.**– A sixteen-year-old soccer player consulted for bilateral progressive anterior knee pain, since two months, evoking a femoro-patellar origin. After physiotherapy, the pain decreases on the right but remained on the left. The history taking brought out the use of isotretinoin for more than 6 months (0.5 mg/kg). Magnetic resonance imaging (MRI) findings showed an irregularity of the growth plate and an important metaphyso-epiphyseal oedema, more marked on the left. The diagnosis of retinoid induced premature epiphyseal closure was retained. The treatment was stopped, with a resolution of symptoms within

two months. The control MRI of the left knee present persisting small sequelar thumbprint-like growth plate lesion. Eighteen months later, neither limb-length discrepancy nor static disorder was noticed.

**Discussion.**– Premature epiphyseal closure is a rare complication of retinoid treatment of acne. Retinoids induce an invasion of the growth plate by osteoclasts and a decrease in proteoglycans synthesis. The knee seems the most involved joint. The clinical presentation is aspecific, sometimes lightly symptomatic. A careful pharmacological history and an appropriate imaging are necessary. MRI is now the gold standard. It shows an irregularity of the growth plate with an oedema on both sides. In chronic phase, a thumbprint-like image may persist. The symptoms resolution arises in few weeks after the treatment interruption. A single case of static disorder was reported until now. The small size of the growth plate interruptions, insufficient to lead to a growth disorder if the medicament is stopped early enough, explains probably it. This complication being rare, a radiological follow-up of the young patients treated by retinoids is not proposed.

**Further readings**

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P058–EN

### Skin traction for humeral fracture healing, after surgical resection of an osteochondroma, in a case of child with persistent vegetative state

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**Keywords:** Osteochondroma; Humeral fracture; Skin traction; Persistent vegetative state

**Introduction.**– Humeral fracture after surgical resection of an osteochondroma, in a case of child with persistent vegetative state.

**Observation.**– Child aged eleven, persistent vegetative state after surgery of brain stem neoplasm. Humeral diaphysis osteochondroma diagnosed in 2006. Humeral diaphysis osteochondroma complicated by pressure ulcer with hematoma.

Orthopaedic procedure was determined. A simple excision of the tumor was performed.

After surgery, the arm was immobilized. A shortening and enlargement of the arm was noticed. X-ray was performed; we diagnosed a humeral diaphysis fracture.

Surgery objected because of risks of infection and anesthesia; a simple immobilization was impossible because of stereotypic movement disorders, and psychomotor agitation.

A skin traction was applied for three weeks, the treatment for that fracture was conclusive.

**Discussion.**– Conclusive orthopaedic treatment, by skin traction, for a humeral diaphysis fracture for a child with persistent vegetative state and stereotypic movement disorders.

**Further readings**

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P059–EN

### Obstetrical brachial plexus palsy: 22 cases

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**Keywords:** Obstetricalpalsy; Brachial plexus; Pediatric rehabilitation

**Objective.**– Our work aims to assess the modalities of management of obstetrical brachial plexuspalsy in the PMR pediatric unit.